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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME		CLA	ss	SUBG	CLASS		DATE OPRIATE		
m		3,022,861	2/1962	Harms					1				
		3,655,060	4/1972	Hagdahl									
		4,857,089	8/1989	Kitagawa et al									
m		5,089,237	2/1992	Schuster et al									
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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME		C	ZASS	,	SUBC	LASS	IF APP	B DATI		
m		RE33,118	11/1989	Scheitlin et al.			1							
		D342,990	1/1994	Jaroszczyk										
		1,893,372	1/1933	Krzanowsky			\perp							
		1,924,472	8/1933	Thomson			\perp							
		2,410,371	10/1946	Vokes			\perp	[
		2,553,054	5/1951	Lincoln et al.			\perp					•		
		3,025,964	3/1962	Summers et a	1.		\perp		. 1					
		3,441,381	4/1969	Keith et al.										
		3,692,184	9/1972	Miller, Jr., et a	J.									
W		3,708,957	1/1973	Labadie	·							· 		
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m		563768	1/1943	Great Britain										
		88/03431	5/1988	WIPO										
		2-53442	2/1999	Japan					A	ostrac -	t			
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	*EXAMINER INITIAL		DOCUMEN NUMBER		DATE	NAME		αA	ss	SUBC	ZASS	FILING IF APPRO	DATE OPRIATE	
	w/		3,799,354		3/1974	Buckman et a	ol.	1			<u> </u>			
			3,844,749		10/1974	Carter, Sr.				_	<u> </u>			
			4,017,347		4/1977	Cleveland								
			4,056,375		11/1977	Ringel et al.				$\vdash \downarrow$				
			4,130,487		12/1978	Hunter et al.				\vdash				
			4,157,902		6/1979	Tokar				\vdash				
			4,410,427		10/1983	Wydevan			<u></u>					
			4,419,108		12/1983	Frost et al.								
	wy		4,430,223		2/1984 4/1984	Miyakawa et a						· · · ·		
Į.	117		4,441,899		4/1964	Takagai et al.		/			J			
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W		4,455,823	6/1984	Bly et al.								
1		4,498,989	1/1985	Miyakawa et al.								
		4,548,626	10/1985	Ackley et al.								
		4,589,983	5/1986	Wydevan					_			
		4,619,675	10/1986	Watanabe								
		4,542,286	3/1987	Kusuda et al.				•				
		4,652,286	3/1987	Kusuda et al.					_			
		4,878,929	11/1989	Tofsland et al.				<u> </u>	_			
		4,902,487	1/1990	Cooper et al.					_			
W		4,925,561	5/1990	Ishii et al.		1	<u> </u>		_			
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			U.S. PA	ATENT DOCUMENTS				2002	,				
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	aA	ss	SUBCLASS	FILING	DA'				
W		4,960,449	10/1990	Yonushonis		1							
		5,008,086	4/1191	Merry					-				
		5,014,509	5/1991	Broering et al.									
		5,015,376	5/1991	Picek									
		5,030,263	7/1991	Kemp									
		5,035,236	7/1991	Kanegaonkar									
		5,052,178	10/1991	Clerc et al.									
		5,063,736	11/1991	Hough et al.					,				
		5,082,479	1/1992	Miller									
M		5,106,397	4/1992	Jaroszczyk et al.		\	<u> </u>						
			FOREIGN	PATENT DOCUMENT	'S		·						
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

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*EXAMINER INITIAL		MENT BER	DATE	NAME		CLAS	ss	SUBC	ZASS		G DATE		
W	5,137,69	6	8/1992	Hitachi et al.		١							
1	5,174,89	5	12/1992	Drori									
	5,252,29	9	10/1993	Retallick									
	5,298,04	3	3/1994	Pelsert									
-	5,304,35	<u> </u>	4/1994	Tanaka et al.									
	5,322,53	7	6/1994	Nakamura et	81 .								
	5,346,67		9/1994	Usui et al.									
_	5,380,50	·	1/1995	Hitachi et al.									
	5,385,873		1/1995	MacNeill		·							
W	5,468,384		11/1995	Garcera et al.									
			FOREIGN	PATENT DOCU	MENTS			-411-21					
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m	5,48	0,621	1/1996	Breuer et al.			Ī	1						
	5,54	6,069	8/1996	Holden et al.										
	5,54	9,722	8/1996	Zemaitis et al.										
	5,56	2,825	10/1996	Yamada et al.	•									
	5,63	2,792	5/1997	Haggard										
	5,77	2,883	6/1998	Rothman et al.		<u> </u>								
	5,79	2,247	8/1998	Gillingham et al	J	<u> </u>								
	5,82	0,646	10/1998	Gillingham et al	J	<u> </u>								
<u> </u>	5,84	8,841	12/1998	Abeles et al.		<u> </u>	ļ			-				
m	5,86	3,311	1/1999	Nagai et al.		<u> </u>	\]						
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11/		5,891,402		4/1999	Sassa et al.				_[
1		5,902,364		5/1999	Tokar et al.										
		5,908,480		6/1999	Ban et al.					$I_{}$					
		5,925,561		7/1999	Posselius, Jr., et	al.									
		5,961,931		10/1999	Ban et al.										
		6,093,378		7/2000	Deeba et al.										
		6,238,561		5/2001	Liu et al. Stroom et al.										
		6,245,301		6/2001											
		6,294,141	<u>.</u>	9/2001	Twigg et al.										
w		2001/002764	5	10/2001	Itoh et al.		(<u> </u>	<u> </u>					
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